



CLAIMS

in Patent Application Entitled

ELECTRONIC BALLAST WITH LEAKAGE TRANSFORMER

1. An electronic ballast comprising:

a ballast housing means having a shape substantially like that of a parallelepiped; the housing having: (i) a mostly flat rectangular bottom wall, (ii) a mostly flat rectangular top wall, the top wall being substantially parallel with the bottom wall, (iii) a mostly flat first side wall, (iv) a mostly flat second side wall, the second side wall being substantially parallel with the first side wall, (v) a mostly flat first end wall, (vi) a mostly flat second end wall, and (vii) a longitudinal axis; the rectangular bottom wall and the rectangular top wall each having a pair of long sides and a pair of short sides; the length of each of the long sides being substantially longer than the length of each of the short sides; the long sides of the bottom wall being parallel with the longitudinal axis;

electronic circuitry; and

a transformer having a ferro-magnetic core; the ferro-magnetic core being characterized as having a main plane; the main plane being parallel with the direction of the magnetic flux in the ferro-magnetic core;

the electronic circuitry and the transformer being mounted within the ballast housing; the transformer being positioned such that the main plane of the ferro-magnetic core is substantially perpendicular to the plane of the bottom wall.

2. The ballast of claim 1 wherein the transformer generates a substantial amount of magnetic leakage flux.

3. The ballast of claim 1 where at least one of the walls is electrically conductive.

4. The ballast of claim 1 wherein at least one of the walls is made of steel.

5. The ballast of claim 1 wherein the main plane is disposed perpendicularly to the longitudinal axis.

6. The ballast of claim 1 wherein the ballast housing is made of ferro-magnetic material.

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7. An electronic ballast comprising:

a ballast housing means having an outer surface shaped like a cylinder of a certain length and with a substantially rectangular cross-section; the length being substantially longer than the largest dimension of its rectangular cross-section; the housing means having: (i) a first rectangular relatively wide wall; (ii) a second rectangular relatively wide wall, this second relatively wide wall being approximately of the same size and shape as the size and shape of the first rectangular relatively wide wall, as well as being substantially parallel with the second rectangular relatively wide wall; (iii) a first rectangular relatively narrow wall; (iv) a second rectangular relatively narrow wall, this second relatively narrow wall being approximately of the same size and shape as the size and shape of the first rectangular relatively narrow wall, as well as being substantially parallel to the first rectangular relatively narrow wall; (v) a cylindrical axis disposed parallel with all the walls of the housing means;

electronic circuitry; and

a leakage transformer having a ferro-magnetic core; the ferro-magnetic core being characterized as having a main plane; the main plane being parallel with the direction of the magnetic flux lines in the ferro-magnetic core; the leakage transformer generating a substantial amount of magnetic leakage flux;

the electronic circuitry and the leakage transformer being mounted within the housing means; the leakage transformer being positioned such that the main plane of its ferro-magnetic core is substantially perpendicular to the plane of the first rectangular relatively wide wall.

8. The electronic ballast of claim 7 wherein the main plane of the ferro-magnetic core is disposed perpendicularly to the cylindrical axis.

9. The electronic ballast of claim 7 wherein at least parts of the walls are electrically conductive.

10. The electronic ballast of claim 9 wherein the ballast housing means includes a substantial amount of steel.

11. The electronic ballast of claim 7 wherein at least part of the walls is made of metal.